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EXAMINER

CHOUDHARY, ANITA

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,789

Applicant(s)

GARCIA-LUNA-ACEVES ET AL.

Examiner

Anita Choudhary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed on August 6, 2004 has been entered. Claim 1 has been amended and is presented for further examination. Claim 29 has been cancelled.

Claims 1-28 and 30-34 are presented.

Response to Arguments

In regarding claims 1-28 and 30-34, Applicant's arguments filed August 6, 2004 have been fully considered but they are not persuasive.

In referring to claim 1, Applicant argues that Jordan et al. (US 6,438,652) teaches a pre-configured server-client relationship different from the claimed invention wherein the server-client pairing is based on "receiving a request for an information object from a client...and returning an address of the selected information object repository to the client". This argument seems to imply that the request is being received directly from the client and the server-client relationship is based on a direct client request. Nowhere in the claim is there a limitation stating that a server-client pairing must be based on a request received directly from the client. As Jordan shows, a client request is in fact being received at the load monitor which then selects one of a number of cache servers to service the request. The claim has been amended to include "returning an address of a selected information object repository to the client." The new limitation is addressed in the rejection below.

In referring to claim 8-10, Applicant argues that the Rune reference does not show the claimed feature of obtaining "an address of a topologically close information object repository to

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the requesting client.” And instead teaches “all of the hop counts and unique IP addresses”.

The argument seems to imply that ONLY one address for a topologically close information object repository is being received, however, this is not claimed. Rune’s teaching of “all the hop counts and unique IP addresses” includes the topologically close repository which the host will choose to serve the request. As a result, in disclosing all of the hop counts and unique IP addresses Rune includes an address of the topologically close repository, as claimed.

In referring to claim 21-28, Applicant argues that Rune does not make clear the claimed limitations. In response, applicants attention is brought to column 4 lines 18-28, wherein host names (domain name) of all the file servers are maintained in order to return such information to client request.

In referring to claim 34, Applicant argues that Rune does not show the process for objects that will be loaded only after some user interaction. This feature is inherent to the Rune reference. Upon receiving the results as shown in figure 7, step 710, it is inherent that a user will perform an action to establish a request to the selected server in order to obtain the client request.

In referring to claim 11-15, Applicant argues that Johnson does not show a web server contacting a web router to obtain an address of a redirecting web router which will service the request. In response, Johnson shows a router obtaining address information along with metric information. A web server address is obtained from a query to the router (82) (col. 5 lines 39-41, col. 5 lines 47-50).

In referring to claim 32 and 33, Applicant argues that Johnson does not show the process for objects that will be loaded only after some user interaction. This feature is inherent to the Johnson reference. Upon receiving the results as shown in col. 5 lines 47-50 and 57-61, it is

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inherent that a user will perform an action to establish a request to the selected server in order to obtain the client request.

In referring to claim 16-20, Applicant argues that Chauhan does not show the claimed feature of returning, from a web server which received the request from the client, a statically configured domain name of the redirector DNS server. In response, it is clear that in response to the request mentioned in col. 3 lines 55- col. 4 line 4, that an address is returned.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al. (US 843,789) in view of Pistriotto et al. (US 6,138,162).

Jordan shows a system having a plurality of caching servers cooperating to forward client request for object to a least loaded server. Jordan shows:

Receiving a request for an information object from a client (col. 5 lines 54-56),

Determining, according to an information object repository selection procedure, which of a number of information object repositories (cache servers) should service the request for the information object without regard as to whether the information object is actually stored at the information object repository selected according to the selection procedure (col. 6 lines 50- col. 7 line 7, col. 7 line 66- col. 8 line 13).

Although Jordan shows substantial features of the claimed invention, Jordan does not explicitly teach *returning an address of a selected information object repository to the client*. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan as evidenced by Pistriotto.

In an analogous art, Pistriotto shows a method for redirecting client request to a cache. A client request for a particular type of information is sent to a destination computer and in an effort to reduce network traffic the client request is sent to a caching proxy server. The caching proxy server notifies the client computer to direct requests based on category ID to the address of a particular caching proxy server (see col. 7 lines 7 lines 4-21, col. 9 lines 21-22 and see abstract).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Jordan to employ the features of a decentralized load table shown by Pistriotto. It would be obvious to one of ordinary skill in the art to return address information to the client, as shown in Pistriotto in order to reduce cache misses shown in Jordan (col. 3 lines 43-50) and efficiently route requests for objects to the correct caching server by using the decentralized method and thereby reducing unneeded network traffic to an incorrect caching server.

In referring to claim 2, Pistriotto shows information object repository selection procedure comprises mapping an address of the client to an address of the selected information object repository (col. 7 line 64- col. 8 line 15).

In referring to claim 3, Jordan shows mapping is made according to specified performance metrics.

In referring to claim 4, Jordan shows the specified performance metrics comprising load on the object repository (col. 3 lines 30-41).

In referring to claim 5, Jordan shows address of information object repository is selected from a number of addresses of information object repositories (load monitor can select from a plurality of owning caches, fig. 2a, 10121 B or A, col. 6 lines 58-64).

In referring to claim 6, Jordan shows selecting information object repository to obtain a copy of the information object (copy of object p, q, or r, see fig. 2a).

In referring to claim 7, Jordan shows determining which of a number of information object repositories should service the request for the information object comprising a direct and redirect cache selection process (col. 6 lines 61-64, direct cache selections or redirected to an owning cache).

Claims 8-10, 21-28, 31, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan and Pistriotto in further view of Rune (US 6,304,913).

Although Jordan and Pistriotto shows substantial features of the claimed invention, Jordan does not show *using web server which received the request, to contact a Web router to obtain an address of a topologically close information object repository to the requesting client*. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan and Pistriotto as evidenced by Rune.

In an analogous art, Rune shows a system used to selecting a closest server for a plurality of alternative servers. Rune shows:

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Using a web server (157a or 156a) which received the request, to contact a Web router (105a) to obtain an address of a topologically close information object repository to the requesting client (fig. 2 210, fig. 7, col. 7 lines 7-25).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Jordan and Pistriotto to employ the features shown by Rune in order to in order to improve response times (see Rune col. 1 lines 43-51).

In referring to claim 9, Rune shows receiving web server from the web router, an address of the topologically close information object repository (fig. 7, 706, fig. 8, 806).

In referring to claim 10, Rune shows returning from web server to the client a URL which contains the address of the topologically close repository (fig. 7 710, fig. 8, 808).

In referring to claim 21, Rune shows a local DNS cache selection process returning, from a web server (158b, 158e) which received the request from the client, a uniform resource locator containing a statically configured domain name (col. 4 lines 1-28).

In referring to claim 22, Rune shows local DNS cache selection process further comprises providing, from a DNS server (156e), the statically configured domain name to a Web router (105e) (col. 4 lines 29-37).

In referring to claim 23, Rune shows the local DNS cache selection process further comprises providing, from a DNS server (156e), the statically configured domain name to a web router (105e), an address of a topologically close repository (fig. 8, 806).

In referring to claim 24, Rune shows the DNS server, the address of the topologically close information object repository to the client (fig. 8, 808).

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In referring to claim 25, Jordan shows direct cache selection process is combined with redirect cache selection process (col. 7 lines 23-35, fig. 4).

In referring to claim 26-28, Jordan shows direct cache selection process is combined with local and remote DNS cache selection process (col. 1 lines 8- col. 2 line 3).

In referring to claim 31, Jordan shows direct cache selection process is used for information objects that will be immediately loaded without user action (col. 7 lines 23-35).

In referring to claim 34, Rune shows local DNS cache selection process is used for information objects that will be loaded only after some user action (fig. 7, 710, wherein user must access the IP address upon receiving it).

Claims 11-15 and 29-30, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan and Pistriotto in view of Johnson et al (US 6,205,477).

In referring to claim 11, although Jordan and Pistriotto shows substantial features of the claimed invention, Jordan and Pistriotto do not show redirect cache selection comprising of redirecting Web router. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan and Pistriotto as shown by Johnson.

In an analogous art Johnson shows a system for redirecting service requests among a plurality of services using portion metrics. Johnson discloses:

A redirect cache selection process comprising of contacting, using a web server (72) which received the client request from the client, a web router (82) to obtain an address of a redirecting web router which will service the request (col. 5 lines 39-53)

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system disclosed by Jordan and Pistriotto, to employ the features shown by Johnson, in order to provide dynamic and transparent scalable traffic load distribution between multiple dispersed servers (see Johnson col. 5 lines 57-61).

In referring to claim 12, Johnson shows returning from web server (72) a URL that contains address of redirecting web router (col. 10 lines 26-52, col. 11 lines 13-16).

In referring to claim 13, Johnson shows contacting the redirecting web router at the address contained in the URL with the request for the information object (col. 11 lines 18-23).

In referring to claim 14, Johnson shows redirecting from the Web router (82), the client to a topologically close server which will service the request for information (col. 5 lines 44-61).

In referring to claim 15, Johnson shows redirecting is accomplished using a HTTP redirect (col. 10 lines 26-30).

In referring to claim 29, Johnson shows combining a redirect cache selection process with remote DNS cache selection process (col. 10 line 26-52).

In referring to claim 30, Johnson shows combining a redirect cache selection process (HTTP redirect mode) with remote and local DNS selection process (col. 6 lines 61- col. 7 line 3).

In referring to claim 32 and 33, Johnson shows a redirected cache selection process and a remote DNS cache selection process is used for information objects that will be loaded only after some user action (col. 8 lines 25-28, wherein user must access the IP address after it is received).

Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan and Pistriotto in view of Chauhan (EP 0959 601).

In referring to claim 16, although Jordan and Pistriotto show substantial features of the claimed invention including returning from a web server a statically configured domain name (col. 2 lines 32-39), Jordan and Pistriotto do not show remote DNS cache selection process with redirector DNS server. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan and Pistriotto, as evidenced by Chauhan.

In an analogous art, Chauhan shows a system for selecting a server from a plurality of mirrored sites. Chauhan discloses:

A remote cache selection process composes returning to client a statically configured domain name of a redirector DNS server (ONS) (col. 3 line 55- col. 4 line 4).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system disclosed by Jordan and Pistriotto to employ the feature shown by Chauhan in order to optimize access and find the best route to a destination (see Chauhan col. 3 lines 49-52).

In referring to claim 17, Chauhan shows a system wherein remote DNS cache selection process further comprises resolving, at the redirector DNS server (ONS), the statically configured domain name to produce a resolved domain name (col. 4 line 4-13).

In referring to claim 18, Chauhan shows a system wherein remote DNS cache selection process further composes providing, from the redirector DNS server (ONS) the resolved domain name to a router (fig. 4 406a/b, col. 9 lines 1-11).

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In referring to claim 19, Chauhan shows remote DNS cache selection process comprises receiving, at the redirector DNS server and from the Web router, an address of a topologically close site for the client (fig. 5 508, fig. 6 610)

In referring to claim 20, Chauhan shows providing from the redirector server the address of the topologically close site to the client (fig. 5 506, fig. 6 618).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita Choudhary whose telephone number is (703) 305-5268. The examiner can normally be reached on 9am-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anita Choudhary
November 2, 2004



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